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Introduction and Overview

> The art of prophecy is very difficult—especially with respect to the future.
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> —Mark Twain

> To understand long-range predictions is Promethean: The fate of the predictions, if not of the predictor, is likely to be unhappy. Still the challenge is hard to ignore.
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> —John Holland (2002)

At the outset of this 21st century, policymakers confront a number of profound developments, in their societies and in the natural world, whose significance is certain to increase over the next several decades. Some can be seen as dangers, some as opportunities, and some as both. One of the most important of these developments is demographic in nature. The proportion of the elderly in the populations of many industrial countries and some emerging markets will rise sharply, in some cases even as total population shrinks. Aging populations will become a growing burden for these countries and possibly for the world economy as well. In other countries, in contrast, a significant youth bulge will emerge, and in still more, HIV/AIDS and other infectious diseases will continue to lower life expectancy and retard economic growth.

Another long-term challenge is climate change. Now almost universally recognized as inevitable, global climate change will result in changes in temperature, precipitation, and the frequency and intensity of extreme weather events around the world, although with varying effects in different countries and on different industries. The only uncertainties are how quickly this warming will occur, how it will manifest itself in different regions, and whether human intervention can

moderate the extent of warming and its effects during the next century. Competition for some natural resources, particularly water and energy but including others as well, will also become an increasing concern for many countries and regions.

Other structural issues, already emergent, will continue to transform the world economy and the economies of individual countries in coming decades. The forces of globalization will continue to intensify, reshaping economies, promoting the movement of capital and labor as well as of goods, and influencing public policy while limiting its options. Rapid technological change—in biogenetics, information and communications, the science of new materials, cognitive science, and many other areas—will stimulate productivity growth, recast whole industries, and further spur globalization. The century may also see a further divergence in countries' incomes per capita, with many of the world's people still among the absolute poor, particularly in sub-Saharan Africa, South Asia, and Latin America. Finally, the events of September 11, 2001, as well as the situations in Iraq and Korea, have demonstrated the political tensions and security risks that can accompany these other developments.

All of these developments have one thing in common: although in each case the details of what will happen remain highly uncertain, few would question that the effects will be of considerable importance. Two other common features are also well worth noting. First, each of these developments is likely to have an important long-term fiscal dimension: each can be expected to have consequences for government budgets far into the future. In part, these consequences reflect the fact that governments have already *predetermined* their future budgetary priorities to an extent unprecedented in history. Many have committed themselves explicitly to a host of future spending obligations and policy initiatives, including increased outlays for social insurance and for the reduced emission of greenhouse gases. Governments have also repeatedly demonstrated an implicit commitment to respond, through increased spending, to extreme weather events or security risks. Some also face pressures on the revenue side, from international tax competition. For many countries the potential for fiscal disaster is quite real: the prospect of much larger fiscal deficits will require, in the absence of early policy change, either a large increase in tax burdens, a sharp cutback in public services and transfers, or a dramatic reneging on other government policy commitments or on government debt. Second, not just one or a few but *all* of these developments are likely to occur concurrently, if with varying degrees of intensity, in coming decades. To

focus narrowly on the fiscal consequences of only one of these issues, in isolation from the rest, would be to ignore the *combined* pressure that may be felt on national budgets.

This study will argue that governments need to do much more, *now*, to take account of the potential fiscal consequences of these developments. The issues they raise need to be the subject not only of more analysis but, perhaps more importantly, of public debate over governments' budget policies. Although their full impact may be felt only in the long term, it would be a grave mistake to defer consideration of these developments and their fiscal effects. Rather, an awareness of these effects should influence the specification of governments' fiscal policy frameworks for the short to the medium term. It should also affect the design of specific policy programs. Five principal arguments can be marshaled to support this assertion.

First, although the fiscal costs of some of these developments may not come due for the next decade or so, capital markets are likely to anticipate the consequences of long-term fiscal weaknesses far sooner. If they do, they will make countries pay a penalty if they have done nothing to address the markets' concerns about the long-term sustainability of fiscal policy. These penalties may be exacted not only by credit markets, in the form of higher interest rates or refusal to lend, but also by long-term equity investors, including multinationals and other direct investors. Households, too, may in effect punish their government's perceived failure to address long-term fiscal concerns, by changing their saving behavior in ways that work against, or even completely offset, the government's macroeconomic policies.

Second, failure to address long-term risk factors sufficiently early may force future governments to adopt policies whose costs to the population living at that time will far exceed those borne by the same country's taxpayers today. That does not mean, however, that only future generations will bear those costs: part of the greater burden will fall on *current* generations, in their old age or even in their later working years.

Third, if they neglect the long term, governments will miss the chance to consider a structured approach by which *present* policies can facilitate the achievement of a long-term fiscal policy outcome that is both sustainable and equitable in sharing risks across generations.

Fourth, it is usually poor budget policy to set in stone today what a country's priorities will be in the future; some flexibility must be retained to meet unexpected challenges or new needs. There is a risk that, by failing to act far enough in advance on those issues that it can

anticipate, the state's capacity to respond to other, less predictable problems, or to pursue appropriate macroeconomic policies, will be weakened.

Finally, there is an asymmetry in the ease with which fiscal policy adjustments can be taken. It is relatively easy, from a political perspective, to adjust policies that have erred on the conservative side, by reducing taxes or increasing expenditures. In contrast, fiscal overoptimism is far harder to correct, requiring politically difficult tax increases and expenditure contractions. This is not to minimize the cost or the political pain associated with early fiscal adjustments made in anticipation of long-term risks; indeed, such adjustments may be especially difficult when the corresponding benefits will accrue several generations hence.

Given the significant uncertainties about the likely state of the world decades into the future, taking accurate account of long-term issues is obviously difficult. Who in 1903 could have predicted the mid-century baby boom? Virtually no one foresaw, in 1953, the threat of worldwide climate change. Even if the world leaders of those times had anticipated these developments, could they have convinced their governments and peoples to take the policy actions that would have made a difference? The situation is little changed today. No one can claim to see clearly all the changes that lie in store for humankind in the decades ahead. Nevertheless, this study will argue that we have *sufficient* knowledge about *some* long-term developments for their plausible consequences to be taken into account in formulating fiscal policy frameworks today. The rest of this book will seek to make the case for such enhanced attention and propose ways in which that attention can lead to meaningful action.

Chapter 2 will identify some of the long-term developments that can be foreseen, at least in broad outline, and examine why they are likely to produce significant changes in the underlying fiscal positions of many countries. Of course, the importance of most of these issues will differ greatly from country to country. Not only do the underlying sources of change—geological, demographic, cultural—affect each country differently, but also, as a historical matter, each government has already made certain specific policy commitments, and these, too, differ. The chapter will also explore the nature of the uncertainties surrounding these prospective developments and the issues associated with taking these uncertainties into account in fiscal decision making. It concludes by emphasizing the importance of incorporating risk management in the formulation of fiscal policy.

Chapter 3 will examine how countries presently take account of long-term issues in their short- to medium-term budget frameworks. It reviews the analytical indicators used to assess long-term fiscal sustainability as well as the way in which long-term issues are treated both in the domestic budget process and in the surveillance of government budgets by multilateral institutions. Equally interesting is the question of how governments' policy frameworks today focus, if at all, on long-term risk factors. It emerges that governments rely partly on a strengthening of the aggregate fiscal policy stance—the achievement of budget balance or fiscal surpluses—and partly on specific policy reforms to shrink or expand their long-term commitments. For the former, fiscal rules have been a particularly common choice of policy instrument. The chapter also considers the role of the market as an independent force affecting fiscal policy.

Ultimately, Chapter 3 argues that current approaches to addressing long-term risks in fiscal policy formulation are deficient. Analytical processes are only beginning to include measures of the size of potential long-term imbalances. Meanwhile, budget processes in most countries do not go beyond a medium-term framework. Countries also rely too heavily on an aggregative approach to fiscal sustainability in an attempt to reduce government debt and raise the national saving rate. Ricardian equivalence effects—the potential for households to offset fiscal initiatives by increasing or reducing their own saving—are not adequately considered. Finally, issues of risk tolerance do not appear to be adequately addressed, particularly in terms of the need to create adequate room in the budget for less easily identifiable pressures that may arise in the future.

Chapter 4 will examine some of the conceptual issues that governments and citizens must confront in considering whether and how to address long-term fiscal challenges. Why should a government incur short-term costs to address issues that seemingly will yield benefits only in the very long term? What factors should be taken into account in assessing such trade-offs? Might failure to address long-term issues impinge on a government's capacity to act in the short run? What factors might make it difficult for a government to act on long-term concerns? Normative issues inevitably come into play. In part, this relates to the difficulty of making trade-offs between the welfare of different generations. In part, it mirrors the problems faced by a government and a society in deciding on a posture toward risk. Political economy issues are also critical to this discussion. Politicians are legendarily myopic, focusing mainly on the next election. But the citizenry in most

countries may be equally myopic, whether because people do not recognize the possible impact of long-term developments, or because they see no way to deal with them, or because they attach far greater value to consumption today than to consumption in the future. The chapter examines the various factors—the legacy of past policies, concerns about the sustainability of policies, concerns about allocative efficiency, and the desire to achieve distributional goals, as well as political economy factors, feasibility constraints, and the need to maintain the legitimacy of the state—that are likely to influence the approach taken by a government and society in addressing long-term issues.

Chapter 5 will suggest a number of concrete ways to strengthen countries' current approaches to addressing the fiscal consequences of long-term developments. It argues that a multipronged strategy is vital, comprehensively blending changes in analysis with changes in process and in specific policies. At the analytical level, this requires an explicit focus on long-term fiscal sustainability and innovative techniques that allow a quantitative assessment of the risks associated with alternative outcomes. Strengthened budget procedures and processes are needed to counter the myopic incentives of politicians and citizens. At the policy level, adjustments in the aggregate fiscal stance will in most cases be insufficient *alone* to rectify long-term fiscal imbalances. Rather, reductions in policy commitments, in ways that affect the time path of expenditure, and a more cautious approach to taking on new expenditure commitments are also necessary. In other words, more weight needs to be placed on policy reforms that ensure that governments have an adequate fiscal cushion to face the challenges associated with looming structural and political trends. Globally, enhanced policy coordination among countries would also be desirable. Chapter 6 provides some concluding thoughts.

Before beginning, it is worth being explicit about what this study will *not* do. It will not address the specifics of how governments might wish to restructure their existing policies—whether in terms of particular programs or in terms of the regulation of the private sector—on the many complex issues that pertain to the long term. Such issues include pension reform, medical care, climate change adaptation and mitigation, hazard insurance, and overseas development assistance, to name a few. Each of these issues is vast and complex and warrants its own in-depth analysis. Although this study certainly emphasizes the importance of governments reconfiguring the scale of their obligations in each area—reducing the extent of their commitments and considering

initiatives that would limit future outlays—how to do so is another large topic indeed.

It is also worth noting that there are some who would question the importance and relevance of this topic. Perhaps three schools of thought can be identified. The first (to which this study belongs) holds that it is important for policymakers to begin, at least, to grapple with the challenge of ensuring long-term fiscal sustainability in the face of clearly anticipated risks and great uncertainties.[1] A second school, while not denying the importance of some of these issues, would nonetheless contend that, even under conservative assumptions about productivity growth, living standards by the mid-21st century will be so much higher than today that the fiscal consequences of potential risk factors can be reasonably accommodated.[2] A third school, reflecting the views of experienced budget planners, may be described as skeptical. It notes the considerable uncertainty of any budget forecast that looks beyond two to three years. It also suggests the need for considerable caution in any effort to formulate a fiscal policy stance that is meant to affect the fiscal outcome long into the future.

The perspectives of the latter two schools are important for the light that they shed on the basic questions posed by this study, and it is worth responding to them. In some respects, the advocates of the third school themselves offer the best argument for why a concern with the long term is important, uncertainties notwithstanding. Aaron (2000, p. 193), for example, has noted that

> Forecasts...are notoriously unreliable. In fact they almost always are wrong.... Nonetheless, ...without forecasts, we would be totally at sea. That we have to use forecasts or projections that we know will be wrong and that usually are wrong raises some difficult questions for policy

[1] The final communiqué of the March 2001 Stockholm European Council (2001, p. 11) emphasized that the Council "should regularly review the long term sustainability of public finances, including the expected strains caused by the demographic changes ahead." Auerbach and Hassett (2001, p. 91), in a recent paper, emphasize that "the presence of uncertainty about the future offers little apparent justification for waiting to act in response to an anticipated fiscal imbalance."

[2] For example, Schelling (1992) and, more recently, Beckerman and Pasek (2001) argue that although global climate change may entail significant costs for future generations, absolute incomes will be well placed to afford policy solutions, even under the most conservative assumptions about growth in income per capita over the next 30 to 50 years. Similarly, Guest and McDonald (2001a, 2001b) argue that consumption per capita should almost double over the next 50 years in real terms, so that the cost of aging populations will reduce only modestly the anticipated rise in living standards.

> analysts and policy-making. Regrettably, in my view, they receive too little attention. My purpose today is to urge that they receive more.

Similarly, Penner (2001, p. 20), a past director of the U.S. Congressional Budget Office, has argued that

> Because budget projections tend to be highly inaccurate and are unlikely to get better soon, policymakers...must live with tremendous uncertainty. That uncertainty should be recognized more explicitly than it has been in the past, and the dialogue regarding policy decisions should pay more attention to the risks of being wrong.

The views of John Holland (2002), who is not an economist but a scientist specializing in complex adaptive systems (and widely known as the "father of genetic algorithms"), are also relevant in this context:

> The common way of making predictions is to examine extensions of current trends.... Such predictions can be valuable in the short term, but trends are fallible guides for longer periods, *unless the underlying processes have great "inertia,"* as in the case of population growth or the buildup of greenhouse gases. (p. 171, italics in original)

> Much of our social agenda is influenced by problems that are not subject to a quick fix. Fixes in this realm require plausible predictions of the long-term effects of current actions. (p. 175)

In effect, despite a poor record of projections, and despite the wide fan of uncertainty that characterizes projections even 5 years out, let alone 30 or 50, the issues that are likely to pose challenges are nevertheless real, and their consequences for future welfare potentially significant. Policy reforms, both those aimed at the program level and those addressing the aggregate balance, can limit the extent to which long-standing policy commitments leave a society exposed to an excessive risk of a government defaulting on its debt, reneging on its obligations to society, or seeing its fiscal capacity weakened to the point where it cannot cope with unpleasant surprises.

The issues posed by the second school are equally challenging. Why worry about a higher tax burden on future generations—a burden that in any case is, at most, probable rather than certain—if those who would have to bear it will be so much better off than we are today?[3] Two answers are possible. First, high marginal tax rates always create

[3] In effect, Robert Nozick (1989) would argue that this approach is equivalent to a social welfare framework that treats the resources of citizens as a common property resource that the government may extract, subject only to constraints imposed by administrative feasibility and potentially adverse incentive effects. Kotlikoff and

disincentives to work, save, and invest, independent of income. They did so for the working generation in many countries 30 to 40 years ago, and they do so for the working generation of today, whose incomes are significantly higher. If today's working generation leaves long-term issues unaddressed, with the result that future generations are confronted by exorbitant tax rates, the latter will react adversely in their economic behavior no matter how high their incomes have risen. The result could be stiff political resistance to a higher tax burden "imposed" by previous generations.

Second, although today's generations may perceive a doubling of their income per capita as representing a significant improvement in the standard of living, it is not clear whether the future generations that will earn those doubled incomes will be any more satisfied than we are with ours, and therefore any more complacent about higher tax rates. Their perception of relative needs, and of what can be purchased from a given income, will undoubtedly be different from ours today. In other words, it would be risky for present generations to assume, myopically, that they can rely on future generations to honor in full the commitments made today, long in advance of when the bills come due. Most likely, all would lose as a result—in the form of a diminished capacity for action by the state, sharply curtailed public services, and large and unanticipated cutbacks in benefits to many elderly whose capacity to offset these losses is diminished.

In sum, despite contrarian views, governments can ill afford to remain complacent about the fiscal consequences of recognizable long-term trends. Governments owe it to future generations to take stock of the potential consequences of their current policy frameworks and to prepare responsibly for an uncertain future.

Raffelhuschen (1999) have noted that one potential theoretical justification for efforts to achieve fiscal sustainability derives from the concept of the welfare state as a social contract, which is transacted between generations. By each generation honoring its part of the contract, current and future generations carry out exchanges that are expected to benefit everyone.